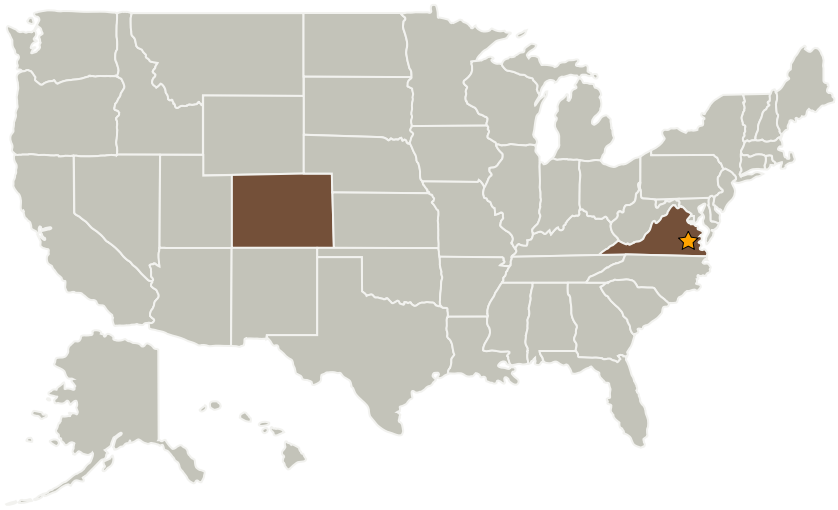
Rugged Low Temperature Actuators for Tunable Fabry Perot Optical Filters, Phase I

Completed Technology Project (2004 - 2004)

Project Introduction

During our Phase I SBIR research, we propose to integrate a novel low-temperature large-strain actuator technology into Fabry-Perot optical filters. The resulting ruggedized tunable optical filters will be able to withstand severe temperature extremes, shock and vibrations. The low-cost actuator contains integrated metrology, which is used to reference wavelengths and compensate for vibration and temperature fluctuations. Ruggedized tunable Fabry-Perot optical filters with integrated meterology will find imaging and LIDAR applications on airborne and spacecraft platforms. Commercially, the actuator technology will find applications in telecommunications and storage media devices.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Langley Research Center(LaRC)	Lead Organization	NASA Center	Hampton, Virginia
Perdix Inc	Supporting Organization	Industry	Boulder, Colorado

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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Langley Research Center (LaRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Colorado	Virginia

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Kenn Arnett

Technology Areas

Primary:

- TX14 Thermal Management Systems
  - TX14.1 Cryogenic Systems
    - TX14.1.2 Launch Vehicle Propellant